

REMARKS

The (Non-Final) Office Action mailed June 5, 2006 has been carefully considered. Claims 1, 2, 8, 9, 11, 12, 14-16, 18, 19, 25, 26, 28, 29, 31-33 and 35 are pending in the subject application and have all been rejected by the Examiner. In view of the arguments below, reconsideration and allowance of the subject application's claims are respectfully requested.

The Examiner has rejected Claims 1, 2, 8, 9, 11, 12, 14-16, 18, 19, 25, 26, 28, 29, 31-33, and 35 for Double Patenting, for which a Terminal Disclaimer has been filed to obviate this rejection, and removal of the rejection is hereby respectfully requested. The Examiner has also objected to Claim 1 for informality, which the claim has been amended to fix, and removal of this objection is respectfully requested. The Examiner has also objected to Figure 2a because a typo in that drawing, for which an amended drawing sheet has been filed to fix, and removal of the objection is respectfully requested.

The Examiner has asserted a rejection of Claims 1, 2, 8, 11, 12, 14, 15, 18, 19, 25, 28, 29, 31, 32, and 35 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,216,211 ("McBrearty"). The Examiner has also asserted a rejection of Claims 1, 2, 8, 11, 14, 16, 18, 19, 25, 28, 31, 33, and 35 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,210,865 ("Davis"). The Examiner has also asserted a rejection of Claims 9 and 26 under 35 U.S.C. § 103(a) as being unpatentable over McBrearty in view of U.S. Patent No. 3,704,453 ("Blackwell"). The Examiner has also asserted a rejection of Claims 9 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Davis in view of Blackwell. The Examiner has also asserted a rejection of Claims 16 and 33 under 35 U.S.C. § 103(a) as being unpatentable over McBrearty in view of McBrearty's background. The Examiner has also asserted a rejection of Claims 12, 15, 29, and 32 under 35 U.S.C. § 103(a) as being unpatentable over Davis in view of U.S. Patent No.

5,655,154 (“Jain”). Applicants hereby traverse these rejections and request reconsideration and allowance of Claims 1, 2, 8, 9, 11, 12, 14-16, 18, 19, 25, 26, 28, 29, 31-33, and 35 in view of the arguments herein.

Double Patenting

Claims 1, 2, 8, 9, 11, 12, 14-16, 18, 19, 25, 26, 28, 29, 31-33, and 35 have been rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1, 3, 7, 9 and 15 of prior U.S. Patent No. 6,631,477 assigned to EMC Corporation, the owner by assignment of the subject application. Assignee files herewith a terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) to overcome this rejection. Removal of the rejection is respectfully requested.

Claim Objections

Claim 1 has been objected to because of an informality. The character “5” in that claim was understood to be a typo. This claim has been amended to correct this informality by removing the character. Removal of the objection is respectfully requested.

Drawings

The drawings have been objected to because Figure 2a contained a typo. The word “Relable” in that figure was meant to refer to “Relabel.” Applicant files herewith corrected a drawing sheet in compliance with 37 C.F.R. § 1.121(d) to overcome this objection. The text “Relable” has been amended to read “Relabel”. Removal of the objection is respectfully requested.

Claim Rejections – 35 U.S.C. § 102

The Examiner has asserted a rejection of Claims 1, 2, 8, 11, 12, 14, 15, 18, 19, 25, 28, 29, 31, 32, and 35 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,216,211

("McBrearty"). However, Applicants respectfully assert that the Declaration under 37 C.F.R. § 1.131 filed herewith is effective to overcome this reference and therefore request removal of this rejection.

The Examiner has also asserted a rejection of Claims 1, 2, 8, 11, 14, 16, 18, 19, 25, 28, 31, 33, and 35 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,210,865 ("Davis"). However, Applicants respectfully suggest that all of the elements of independent Claims 1, 18, and 35 are not disclosed by Davis and therefore all depending claims should also be allowable for the same reasons that the independent claims are, and which reasons are discussed herein. It is a fundamental principle of patent law, that a claim cannot be properly rejected for anticipation unless each and every element of the claimed invention is present in the reference. Here, the elements in Claims 1, 18, and 35 are not disclosed by Davis, as discussed below.

With respect to independent Claims 1 and 18, both claims recite, in addition to other features, "a mass storage subsystem with business continuance features . . . , comprising a time maker function command processor . . . for parsing and implementing business continuance commands . . . to activate said business continuance features"

Applicants respectfully assert that Davis does not disclose a mass storage subsystem with business continuance features or a command processor for implementing business continuance commands to activate those features. As stated in the *Summary of the Invention* of the present application, business continuance features "allow[] one or more MVS mainframe hosts to: establish business continuation volumes to mirror the standard mass storage volumes; synchronize business continuation volumes with the standard volumes so that their contents are identical, split off a business continuation volume from its standard volume counterpart to make

the business continuation volume available for other purposes, such as backup; and enable a business continuation volume to be used to restore the contents of a standard volume” (Specification page 8, lines 6-9). These business continuation features are further described in U.S. Patent No. 6,101,497, issued on Applicants’ co-pending U.S. Application No. 08/842,953, entitled “Method and Apparatus for Independent and Simultaneous Access to a Common Data Set,” which is incorporated by reference in the present application (Specification page 12, lines 7-11).

Applicants respectfully assert that Davis does not teach or suggest the use of business continuance features as described above. Instead, Davis deals with the use of “shadow sets.” These shadow sets are essential groups of mirrored disks. Davis does not describe the members of the shadow sets as having the ability to split from the set to operate independently and then later to be able to rejoin the set and be synchronized with it. Davis also does not describe members of the set that have been split off being able to restore the data on the other members of the set. These abilities, to split and then rejoin and synchronize or restore, are described in the Specification of the present application as business continuance features, which is a claimed element of the present invention.

Furthermore, the commands described by Davis are not the same as the business continuance commands claimed in the present application. The present invention uses relatively high level commands, such as those depicted in Figures 4a-4g, to implement processes that may require a large number of operations. For example, the “Establish” command, shown in Figure 4b, invokes a whole series of operations, as shown in Figure 2c. These business continuance commands deal with operations on entire volumes (see the command syntax in Figure 3a).

In contrast, the commands described in Davis are on a much lower level. They deal with the reading, writing, and comparing of specific blocks on a disk. They do not “activate said business continuance features” as claimed by the present invention. Instead, they are used in the actual “transferring of data between storage media” (Davis Title). Davis does not describe any commands that implement high level business continuance functions such as establishing a BCV pair, splitting such a pair, synchronizing such a pair, or restoring such a pair, nor could Davis describe such commands because the system in Davis does not include any of those features.

Therefore, because Davis does not teach or suggest business continuance features or a processor that parses commands that activate those features, it does not disclose all of the elements of independent Claims 1 and 18. Applicants therefore respectfully request that the rejection of these claims as being anticipated by Davis under § 102 be withdrawn.

With respect to Claims 2, 8, 11, 14, and 16, which depend from Claim 1, and Claims 19, 25, 28, 31, and 33, which depend from Claim 18, the Applicants respectfully assert that these claims are allowable over Davis for at least the same reasons as Claims 1 and 18, as discussed above.

With respect to independent Claim 35, the claim recites, in addition to other features, “a business continuance command activation device for parsing business continuance commands . . . to activate business continuance features associated with the mass storage subsystem.” As discussed for Claims 1 and 18 above, Davis does not teach or suggest business continuance features or a processor that parses commands that activate those features. It therefore does not disclose all of the elements of independent Claims 1 and 18 and Applicants respectfully request that the rejection of this claims as being anticipated by Davis under § 102 be withdrawn.

Claim Rejections – 35 U.S.C. § 103

The Examiner has asserted a rejection of Claims 9 and 26 under 35 U.S.C. § 103(a) as being unpatentable over McBrearty in view of U.S. Patent No. 3,704,453 (“Blackwell”). The Examiner has also asserted a rejection of Claims 16 and 33 under 35 U.S.C. § 103(a) as being unpatentable over McBrearty in view of McBrearty’s background. However, Applicants respectfully assert that the Declaration under 37 C.F.R. § 1.131 filed herewith is effective to overcome the McBrearty reference and therefore request removal of these rejections.

The Examiner has also asserted a rejection of Claims 9 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Davis in view of Blackwell. The Examiner has also asserted a rejection of Claims 12, 15, 29 and 32 under 35 U.S.C. § 103(a) as being unpatentable over Davis in view of U.S. Patent No. 5,655,154 (“Jain”). However, Applicants respectfully submit that a *prima facie* case of obviousness does not exist for any of the Claims 9 and 26 or 12, 15, 29, and 32. Three basic criteria for establishing a *prima facie* case of obviousness are set out at MPEP 2143. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the modification and the reasonable expectation of success must both be found in the prior art, not in Applicants’ disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) cited at MPEP 2143.

As discussed above, all of the claim limitations are not taught or suggested by the prior art references. Specifically, Davis does not teach or suggest business continuance features or a processor that parses commands that activate those features, which are elements of independent Claims 1 and 18. Because Claims 9, 12, and 15 depend from Claim 1 and Claims 26, 29, and 32

depend from Claim 18, Applicants respectfully assert that these claims are allowable for at least the same reasons independent Claims 1 and 18, as argued above.

Neither the inclusion of Blackwell nor Jain teaches, suggests, or even motivates the use of business continuance features or a processor that parses commands that activate those features as claimed by the present invention. Blackwell deals only with the use of low level commands to control peripheral devices. Jain deals only with the sharing of utilities between operating systems. Although some of these utilities, such as the LABEL utility cited by the Examiner, may perform activities with the disks, they do not activate business continuance features as described in the present application. Neither Blackwell nor Jain, alone or in combination with Davis, teach or suggest the use of business continuance features, including the ability to establish a BCV pair, split such a pair, synchronize such a pair once they have been split, or restore such a pair once they have been split, which is an element of all of the rejected claims of the present invention. Further, none of these references, alone or in combination, teach or suggest the use of a command processor to activate these features based on business continuance commands. In the absence of these features, such a processor would be totally unnecessary.

Therefore, because Davis, Blackwell, and Jain, alone or in combination, do not teach or suggest all of the claim limitations of the rejected claims, Applicants respectfully assert that the rejections of Claims 9 and 26 and of Claims 12, 15, 29, and 32 under 35 U.S.C. § 103(a) are unwarranted, and removal of these rejections is hereby respectfully requested.

Declaration under 37 C.F.R § 1.131

The Examiner has asserted that the declaration filed on January 16, 2004 under 37 C.F.R. § 1.131 is ineffective to overcome the McBrearty reference because § 1.131 requires a showing of facts, not just a statement of facts. A new declaration that includes a showing of facts is filed

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herewith under 37 C.F.R § 1.131. Applicants assert that this declaration is effective to overcome McBrearty as a prior reference.

Conclusion

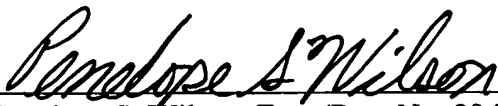
In view of the foregoing, the applicants' believe that the application is in condition for allowance and respectfully request favorable reconsideration.

In the event the Examiner deems personal contact desirable in the disposition of this case, the Examiner is invited to call the undersigned attorney at (508) 293-7998.

Please charge all fees occasioned by this submission to Deposit Account No. 05-0889.

Respectfully submitted,

August 1, 2006
Date


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Amendments to the Drawings:

Please replace Figure 2a with the figure shown on the included "Replacement Sheet."

Figure 2a has been amended to correct a typographical error. The word "Relable" above block 210 has been corrected to read "Relabel".